CLAIMS

1. A composition for forming a porous film comprising a condensation product and an organic solvent wherein the condensation product is obtained by condensation, in the presence of acid, of at least one compound selected from the group consisting of silicate represented by formula (1) and organosilicate represented by formula (2)

$(X_2O)_i(SiO_2)_j(H_2O)_k$ (1)

$(X_2O)_a(RSiO_{1.5})_b(H_2O)_c$ (2)

wherein X independently represents Li, Na, K, Rb, Cs or quaternary ammonium; i, j and k independently represent numbers which satisfy $0<i\leqq1$, $0j\leqq1$ and $0\leqq k\leqq2$; R independently represents a hydrogen atom or an organic group; and a, b and c independently represent numbers which satisfy $0<a\leqq1$ and $0<b\leqq1$ and $0\leqq c\leqq1.5$.

2. The composition for forming a porous film according to Claim 1 wherein said quaternary ammonium comprises an alkyl group having 1 to 20 carbons.

3. The composition for forming a porous film according to Claim 1 wherein said R represents an organic group having 1 to 10 carbons.

4. The composition for forming a porous film according to Claim 1 wherein said silicate represented by formula (1) is tetramethylammonium silicate and said organosilicate represented by formula (2) is

tetramethylammonium methylsilicate.

5. A method for manufacturing a porous film comprising steps of applying said composition according to any one of Claims 1 to 4 to a substrate so as to form a film thereon, drying the film and heating the dried film so as to harden the film.

6. A porous film formable by said composition according to any one of Claims 1 to 4.

7. An interlevel insulating film formable by said composition according to any one of Claims 1 to 4.

8. A semiconductor device comprising a porous film therein, the porous film being formable by a composition comprising a condensation product and an organic solvent wherein the condensation product is obtained by condensation, in the presence of acid, of at least one compound selected from the group consisting of silicate represented by formula (1) and organosilicate represented by formula (2)

$$(X_2O)_i(SiO_2)_j(H_2O)_k \quad (1)$$

$$(X_2O)_a(RSiO_{1.5})_b(H_2O)_c \quad (2)$$

wherein X independently represents Li, Na, K, Rb, Cs or quaternary ammonium; i, j and k independently represent numbers which satisfy $0<i\leqq1$, $0j\leqq1$ and $0\leqq k\leqq2$; R independently represents a hydrogen atom or an organic group; and a, b and c independently represent numbers which

satisfy $0<a\leqq1$ and $0<b\leqq1$ and $0\leqq c\leqq1.5$.

9. The semiconductor device according to Claim 8 wherein said quaternary ammonium comprises an alkyl group having 1 to 20 carbons.

10. The semiconductor device according to Claim 8 or 9 wherein said R represents an organic group having 1 to 10 carbons.

11. The semiconductor device according to Claim 8 or 9 wherein said silicate represented by formula (1) is tetramethylammonium silicate and said organosilicate represented by formula (2) is tetramethylammonium methylsilicate.

12. The semiconductor device according to Claim 8 or 9 wherein said porous film is between metal interconnections in a same layer of multi-level interconnects or between upper and lower metal interconnection layers.